

## A NEW GENUS OF DIXIDAE (DIPTERA) FROM THE PHILIPPINES

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*Abstract.*—A new dixid genus and species from the Philippines is described and illustrated. It is *Metadixa* n. gen. with *M. tritiara* n. sp. A key to the world genera, based on larval characters, is included.

*Key Words:* Dixidae, new genus, Philippines, Diptera

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The dixids of the world are distributed among 6 previously described genera. Uniformity in overall morphology of adults makes placement of species in the proper genera difficult. Morphology of larvae, however, is sufficiently distinct to assign them to appropriate genera. Consequently, larval specimens and, particularly, adults reared from larvae are of great taxonomic value in studying relationships among the Dixidae.

While sorting through the dixid collection at the University of Massachusetts, the senior author found one specimen from the Philippines that differs significantly from all others examined by the authors. It is described below, followed by a key to the larvae of dixid genera of the world.

The single specimen of the new genus belongs to the Insect Collection of the University of Massachusetts. It was originally slide mounted in some aqueous mounting medium, from which it was removed and placed into a temporary slide mount of glycerine, so that all aspects could be examined. It will be kept in an alcohol-glycerine solution to facilitate future study.

The morphological terms used in the description of the new genus follow Peters and Adamski (1982) and are also used in the

comparisons of the other dixid genera in the key. Chaetotaxy follows Belkin (1968).

Generic comparisons of larvae were made from the dixid holdings of the University of Massachusetts (approximately 700 slides or vials of reared specimens), and from specimens loaned by other institutions.

### *Metadixa* Peters, NEW GENUS

Type species.—*Metadixa tritiara*, new species. Characters of the type species similar to other species included in tribe Dixini; differing from *Dixa* (*Nothodixa*) Edwards, 1930 as redescribed by Belkin (1968) (type species *Dixa campbelli* Alexander) in the diagnostic features described below.

Larva.—Dorsal coronae of aciculate spinules present only on abdominal segments III–V. Paired prolegs on venter of A1–AII densely invested with heavily pigmented crochets; prolegs of AII distinctly smaller than those of A1. Ambulacral combs present on venter of AV–AVII. Anal comb absent.

### *Metadixa tritiara* Peters,

#### NEW SPECIES

Figs. 1–3

Larva.—*Head:* Head capsule ovoid, broad; length:width ratio = 0.82; moder-

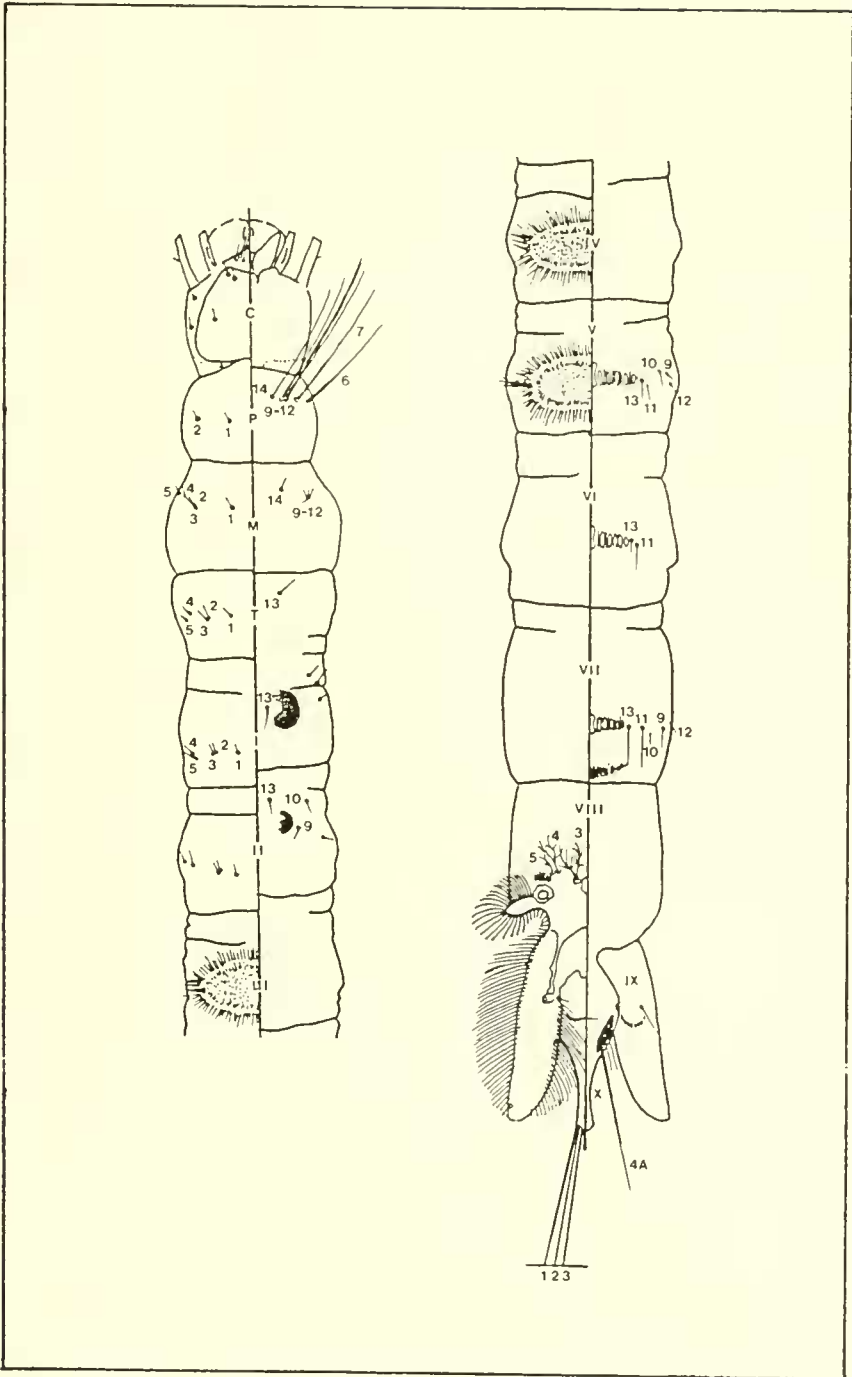
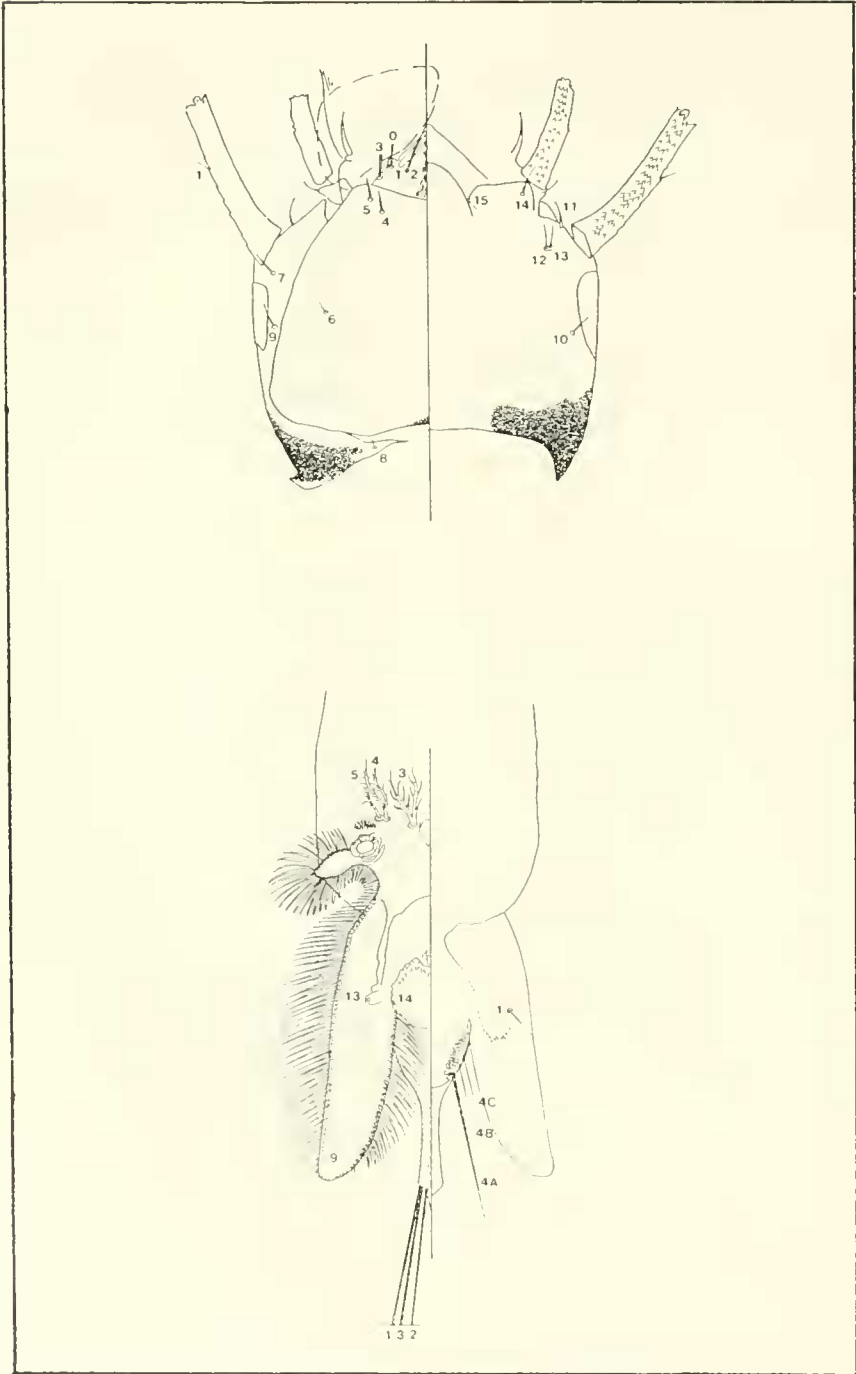


Fig. 1. *Metadixa tritiara* n. sp. Fourth instar larva. Split drawing (left = dorsal, right = ventral).



Figs. 2, 3. *Metadixa tritiara* n. sp. Fig. 2. Details of cephalic chaetotaxy. Split drawing (left = dorsal, right = ventral). Fig. 3. Details of caudal end of abdomen. Split drawing (left = dorsal, right = ventral).

ately emarginate along dorsal and ventral caudal borders; collar not developed; labial process narrow, rounded distally. Infuscation of caudal margin of head capsule broad laterally, narrowed and broken dorsally and ventrally; distinct dark patch at center of caudal border of clypeus. Seta 8-C present; seta 4- and 5-C closely associated, distance between setae 4 much greater than between 4 and 5. Seta 6-, 9- and 10-C near midlevel of head capsule. Setae 6-C removed mesad from lateral edge of clypeus. Seta 12- and 13-C with alveoli adjoining; seta 14- and 15-C both single, latter smaller. *Antenna*: Short, less than  $\frac{1}{2}$  length of head, relatively straight and of similar diameter throughout length except for slight thickening at base. Seta 1-A inserted about 0.6 of distance from base; triangular spinules along entire ventral surface; no other setae along shaft. *Thorax*: Ventral prothoracic setae short, less than  $\frac{1}{3}$  length of thorax, slightly longer than head capsule; ratio length prothoracic setae : length head capsule = 1.17. Ventral prothoracic setae arranged 1:1:4:1::1:4:1:1, narrow, rather dense band of fine spinules between setal bases. Seta 1-, 2-P at same level; seta 2-M and 3-T with alveoli contiguous. *Abdomen*: Paired prolegs ventrally on AI and AII, invested thickly with heavily pigmented crochets; prolegs of segment two distinctly smaller than those of segment one. Seta 13-I, II distinctly removed from and mesal to base of prolegs. Seta 2, 3-I-IV with bases adjoined. Dorsal coronae on AIII-V only, consisting of circular band of aciculate spinules surrounding a smaller circular band of finer spinules and a central field of tubercles. Seta 2, 3-V with bases more widely separate than seta 1 and 2. Ventral ambulacral combs on AV-AVII, each consisting of a row of 10-13 stout, slightly curved, erect spines alternating with more slender and recumbant spines; rows at right angle to longitudinal axis, parallel to each other. Each comb divided in half, halves flanking a small hour-glass shaped median plate.

Venter of AVII with prominent median caudal patch of dense dark spinules. Seta 10, 11-VII short, not reaching segment VIII. *Spiracular apparatus*: Spiracles large with broad, scalloped peritreme. Metaspiracular plate small. Paraspiracular seta 3 conspicuously double-trunked; paraspiracular seta 4 distinctly smaller than seta 5, bases contiguous. Postspiracular processes lanceolate, small; length about  $1.5 \times$  spiracular (peritreme) diameter. Conspicuous small dense patch of spinules lateral to paraspiracular setae and anterior to each spiracle. Posterolateral processes without apical pointed process; marginal setae lightly feathered. Possible base of seta 9-IX visible, seta 8 not evident. Anterolateral plates well defined and sclerotized, each with single row of simple pectinate spines posteriorly and ventrally, with incomplete row of much weaker spines behind row on plate. Seta 1-IX simple, long, inserted on dorsal  $\frac{1}{2}$  of plate. *Anal segment*: Saddle well developed, bell-shaped, without distinct suture separating postanal process. Ventrolateral processes separate from saddle, elongate. Seta 4A-X thick, long, with base on ventrolateral plate; length 0.88 of basal saddle plus postanal process; seta 4B much finer and shorter, its base near dorsal edge; seta 4C similarly fine and short, base dorsal to ventrolateral plate. Anal comb absent. Postanal process slender, slightly flared posteriorly, microspinose dorsally, with only a few spinules ventrally; prominent stout apical point. Setae 1-3 of postanal process short and smooth, no more than  $1.6 \times$  length of postanal process plus saddle.

Holotype.—Larva, preserved in alcohol-glycerine.

Type locality.—Philippine Islands, collected by Hamilton Laudani in 1945 (see discussion).

Specimen examined.—Holotype larva, deposited in the Peters dixid collection, Department of Entomology, University of Massachusetts, Amherst, Massachusetts.

The new genus and species is to be attributed to the senior author.

GENERIC KEY TO DIXID LARVAE  
OF THE WORLD

- |   |                               |
|---|-------------------------------|
| 1. Coroneae present                             | 2                             |
| - Coroneae absent                               | 6                             |
| 2. Coronal setae palmate                        | <i>Paleodixa</i> Contini      |
| - Coronal setae aciculate                       | 3                             |
| 3. Coroneae on abdominal segments III-V         |                               |
|   | <i>Metadixa</i> Peters        |
| - Coroneae on abdominal segments II-VII         | 4                             |
| 4. One pair of abdominal prolegs                |                               |
|   | <i>Meringodixa</i> Nowell     |
| - Two pairs of abdominal prolegs                | 5                             |
| 5. Ambulatory combs on abdominal segments V-VII |                               |
|   | <i>Dixa</i> Meigen            |
| - Ambulatory combs on abdominal segments V-VI   |                               |
|   | <i>Nothodixa</i> Edwards      |
| 6. Ambulatory combs on abdominal segments V-VI  |                               |
|   | <i>Mesodixa</i> Belkin        |
| - Ambulatory combs on abdominal segments V-VII  |                               |
|   | <i>Dixella</i> Dyar & Shannon |

DISCUSSION

We wrote to Hamilton Laudani, now retired from a career in the U.S. Department of Agriculture, to determine if he could identify where in the Philippines he had collected the meniscus midge described above. He responded, saying that he collected the dixid when he was in the 3rd Malaria Unit of the U.S. Army during World War II. Whatever spare time he had was devoted (at least partially) to collecting insects, which

he then sent to "Doc Alex" (Charles P. Alexander) at the University of Massachusetts. Because the rules of censorship forbade Laudani from identifying locations where he collected, he could only include dates. After the war ended he sent "Doc Alex" a list of island names to match up with the collection dates. He states that he was on Luzon, Cebu, and Negros in 1945, and since "conditions on Luzon were not very conducive for insect collecting" that "I would guess it came from Negros."

ACKNOWLEDGMENTS

We thank R. H. L. Disney (Dept. Zool., Univ. of Cambridge), R. E. Harbach (Dept. of the Army, Smithsonian Institution) and C. Contini (Medica Veterinaria Ed Agraria, Cagliari, Italy) for materials supplied for parts of this study. We also thank Hamilton Laudani for his contributions in making this new genus a part of what we know of meniscus midge diversity.

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